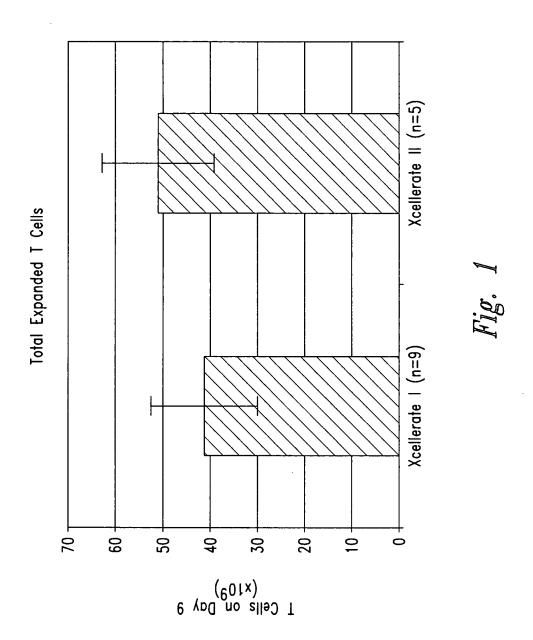
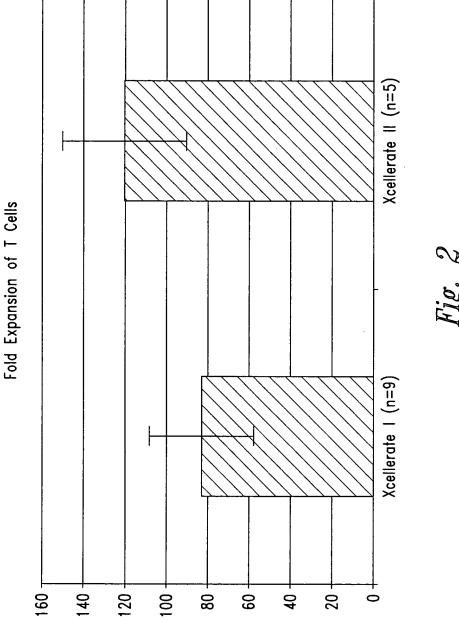
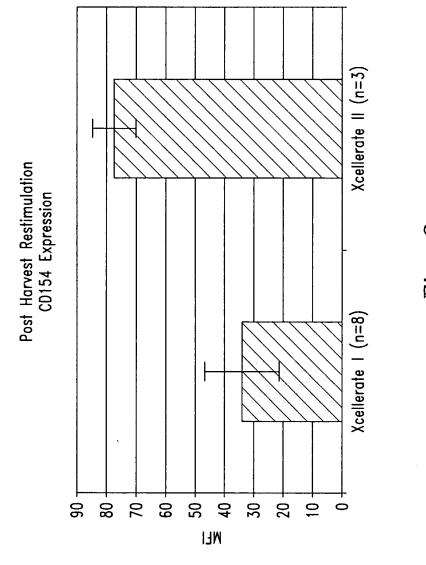
Title: ACTIVATION AND EXPANSION OF CELLS





Title: ACTIVATION AND EXPANSION OF CELLS



KIE. 3

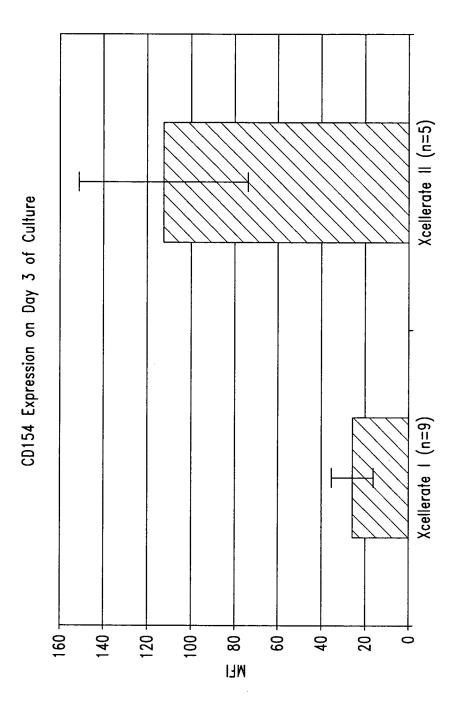


Fig. 4

Express Mail No. EV336592935US Inventor(s): Ronald Berenson et al. Docket No. 980034.417C5

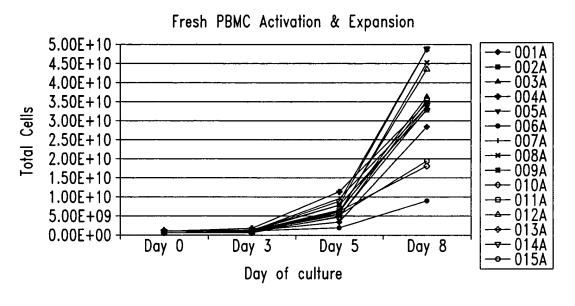


Fig. 5A

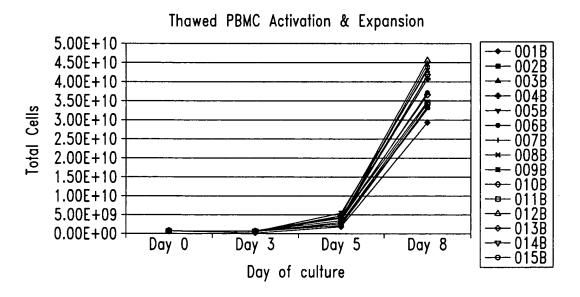
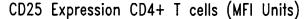


Fig. 5B

Inventor(s): Ronald Berenson et al. Express Mail No. EV33659

Express Mail No. EV336592935US Docket No. 980034.417C5



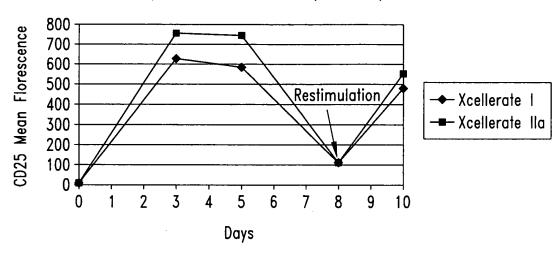
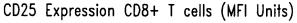


Fig. 6A



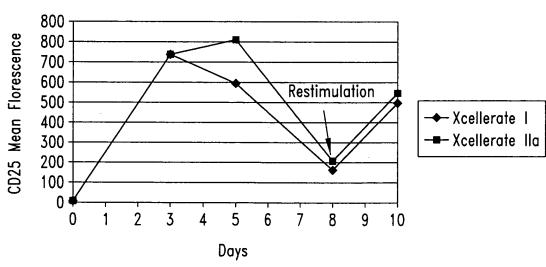
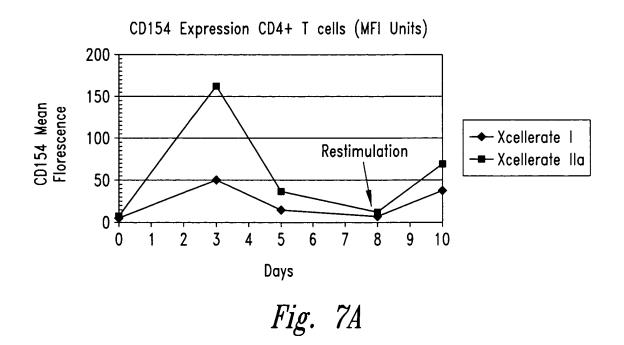


Fig. 6B

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Express Mail No. EV336592935US



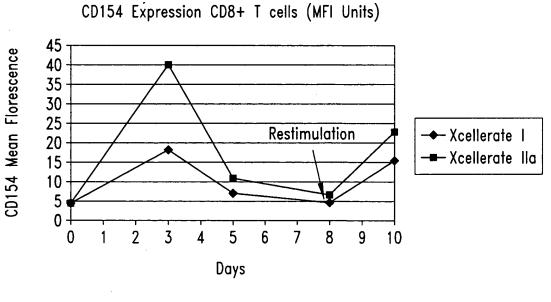


Fig. 7B

Inventor(s): Ronald Berenson et al.

Express Mail No. EV336592935US

Cell Growth Over Time -- Cultures without IL2 NA-023 PC014

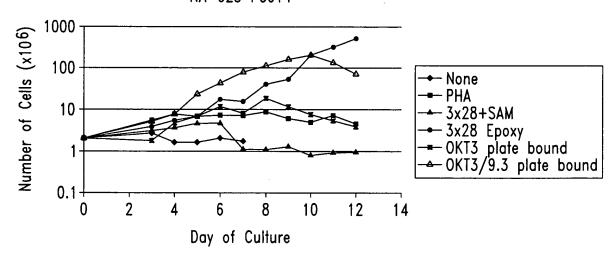


Fig. 8A

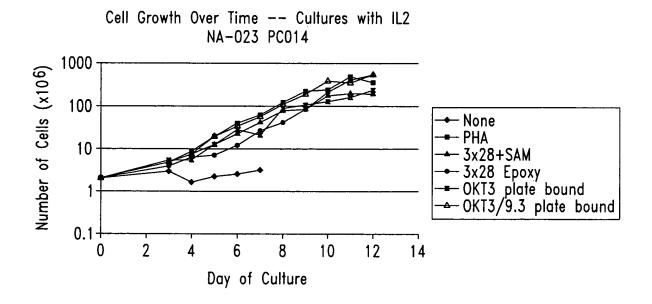
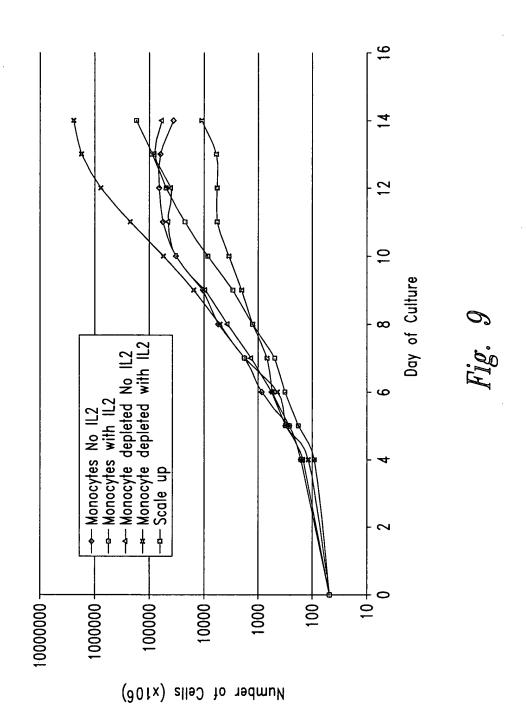
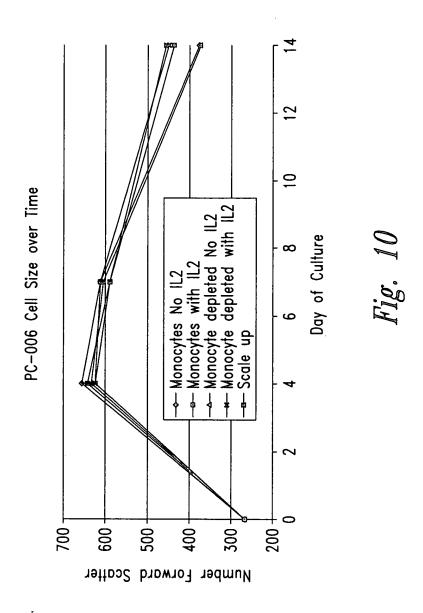


Fig. 8B





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PC006 -- CD25 Expression Over Time

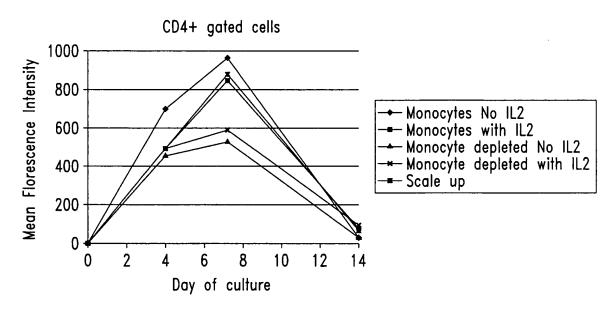


Fig. 11A

PC006 -- CD25 Expression Over Time

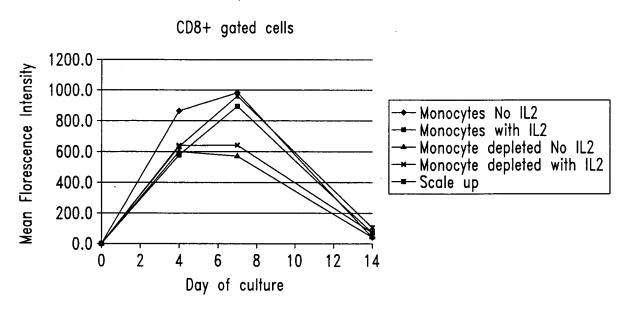
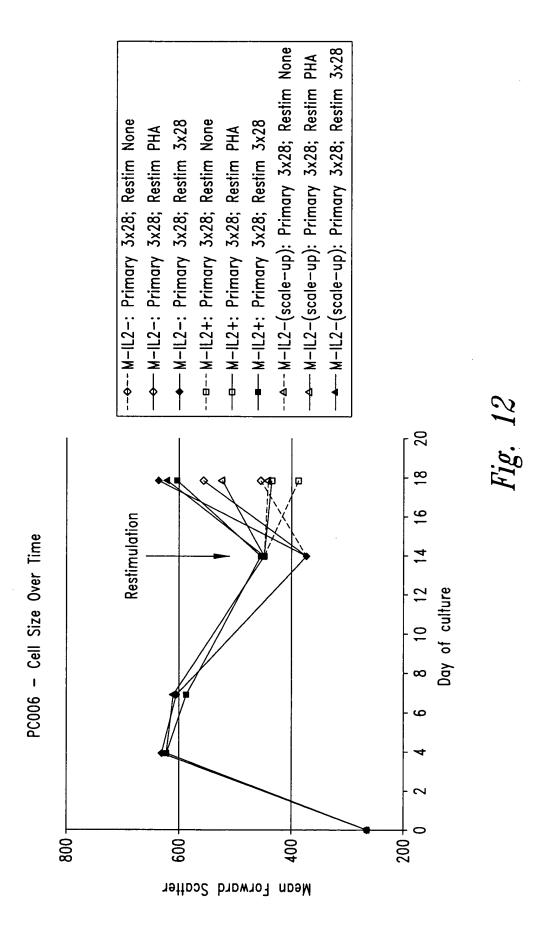
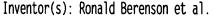
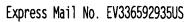
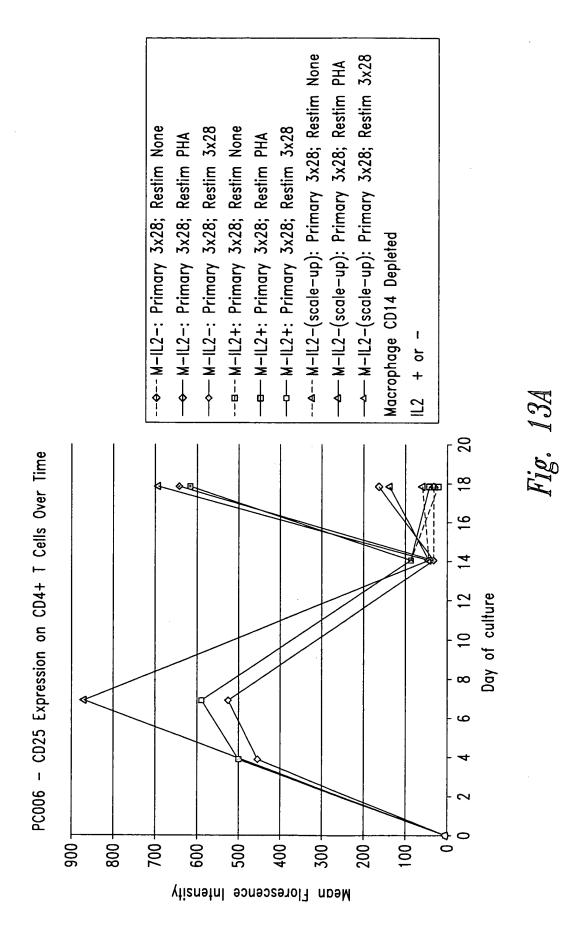


Fig. 11B









Inventor(s): Ronald Berenson et al. Express Mail No. EV336592935US

Docket No. 980034.417C5

--a--M-IL2-(scale-up): Primary 3x28; Restim None --- M-IL2-(scale-up): Primary 3x28; Restim 3x28 -- M-IL2-(scale-up): Primary 3x28; Restim PHA --- M-IL2+: Primary 3x28; Restim 3x28 -в--М-IL2+: Primary 3x28; Restim None -0-- M-IL2-: Primary 3x28; Restim None —M-1L2-: Primary 3x28; Restim 3x28 — M−IL2+: Primary 3x28; Restim PHA —M-IL2-: Primary 3x28; Restim PHA Macrophage CD14 Depleted 20 PC006 - CD25 Expression on CD8+ T Cells Over Time <u>~</u> 16 Day of culture 1000 800 900 400 200

Mean Florescence Intensity

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Express Mail No. EV336592935US

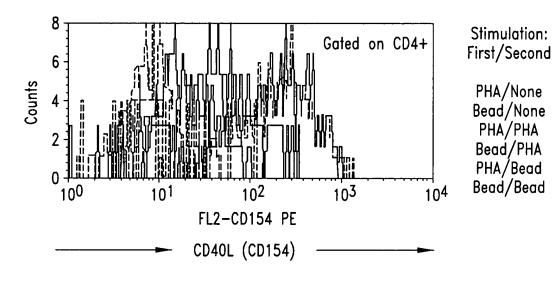


Fig. 14A

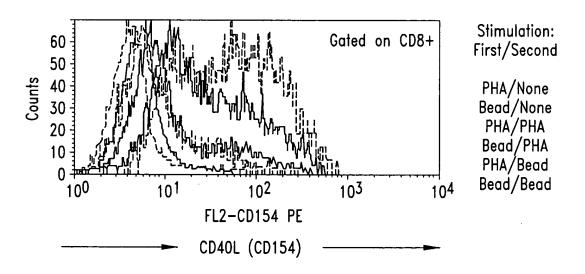


Fig. 14B

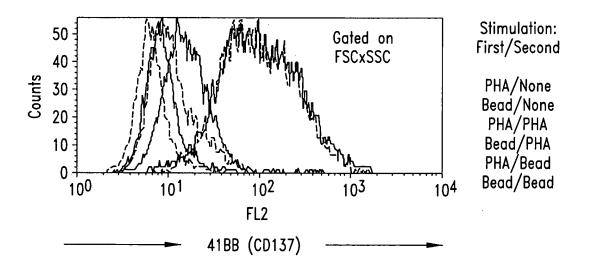


Fig. 15

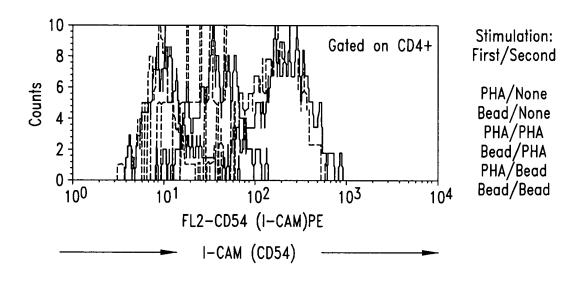


Fig. 16A

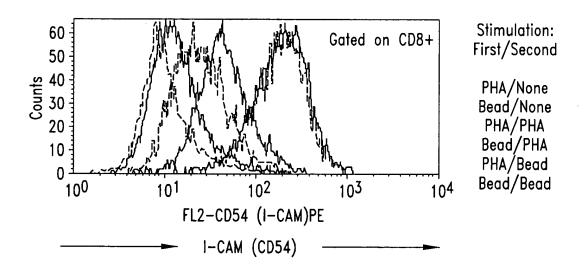
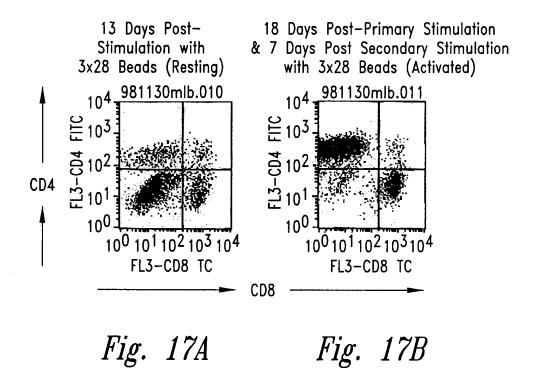


Fig. 16B



Inventor(s): Ronald Berenson et al.

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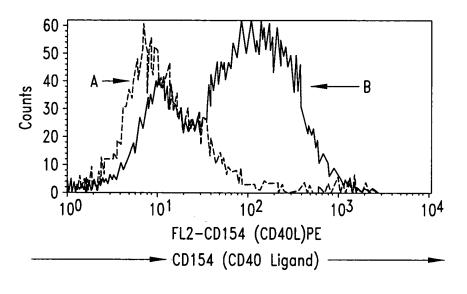


Fig. 17C

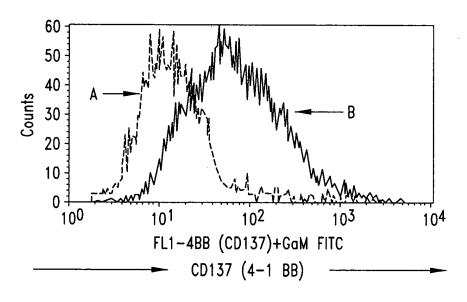
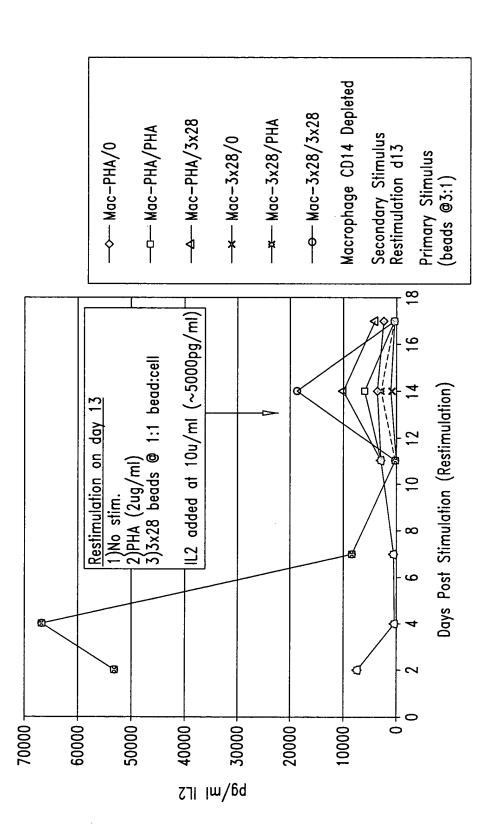


Fig. 17D

Fig. 184



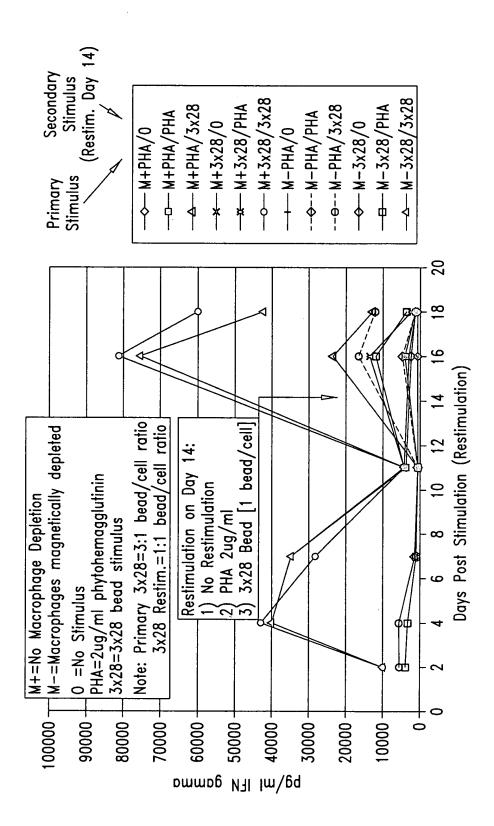


Fig. 18B

PC003: Secreted IL4 Kinetics Following Primary Stimulation and Restimulation

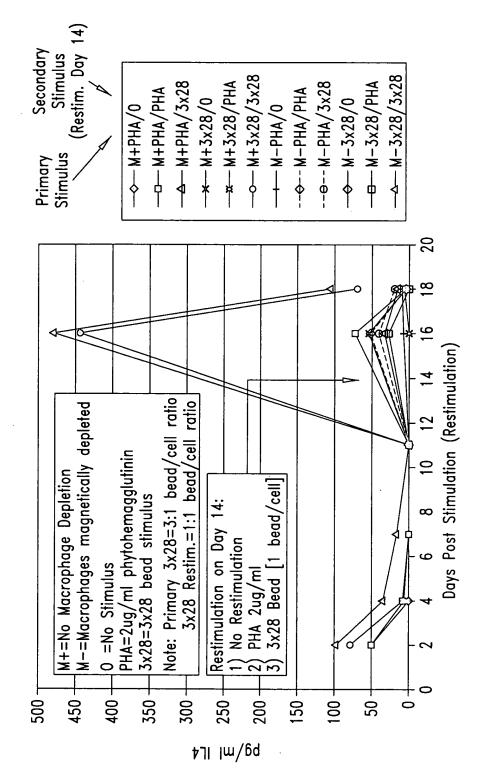


Fig. 18C

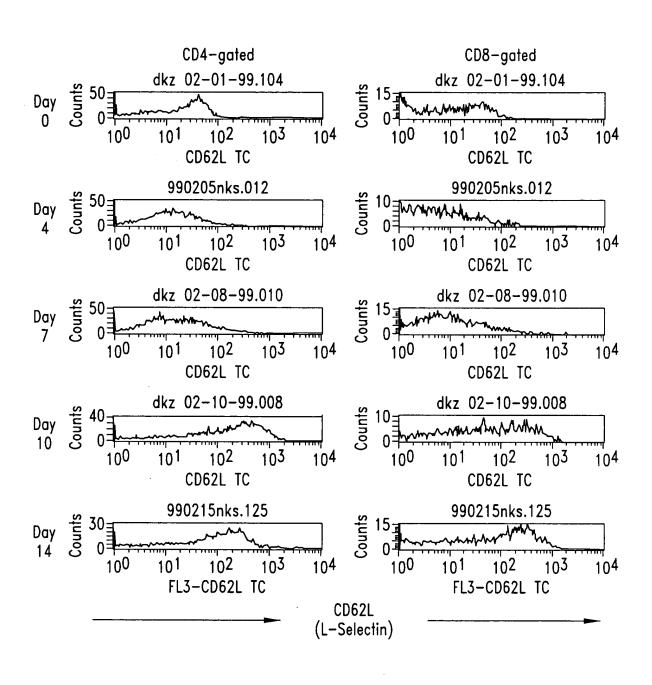
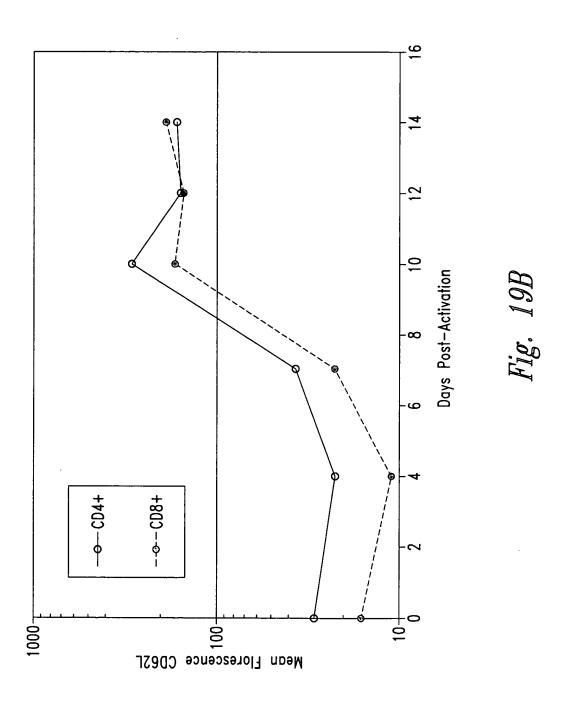
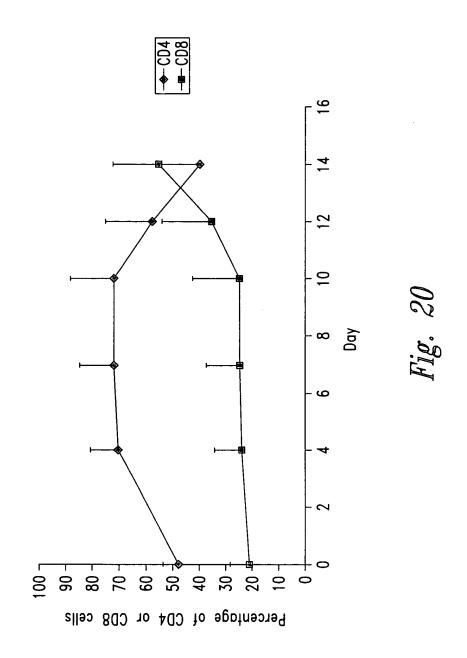


Fig. 19A



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0

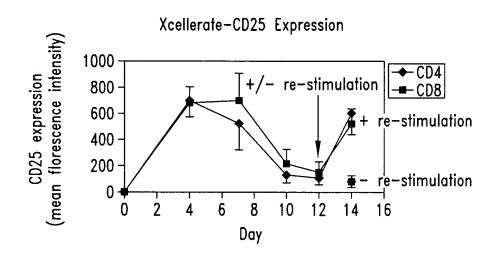


Fig. 21A



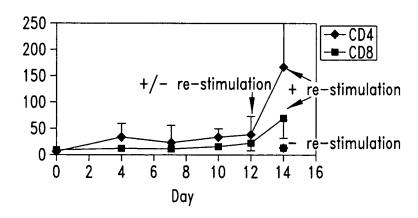


Fig. 21B

Inventor(s): Ronald Berenson et al. Express Mail No. EV336592935US

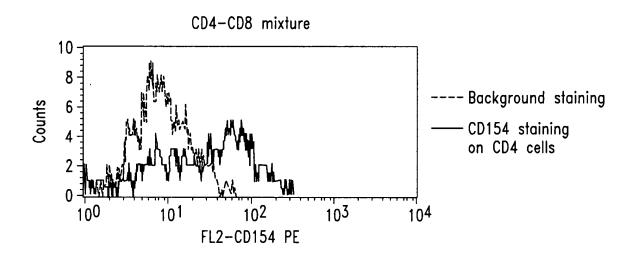


Fig. 22A

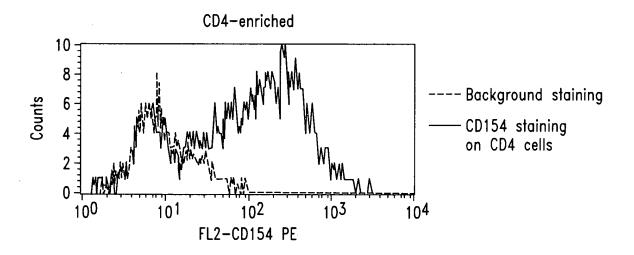


Fig. 22B

$Xcellerate-TNF-\alpha$ Production

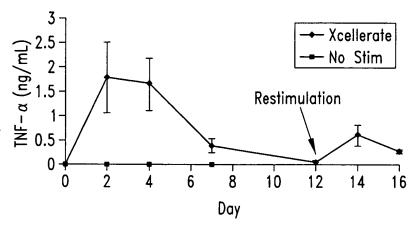


Fig. 23A

Xcellerate-IFN- γ Production

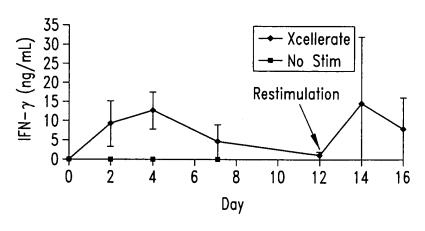


Fig. 23B

Xcellerate-IL-4 Production

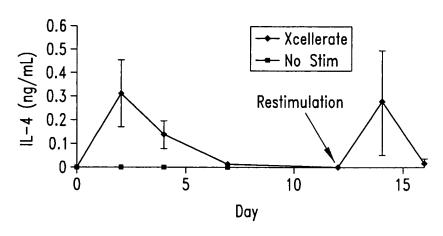


Fig. 24A

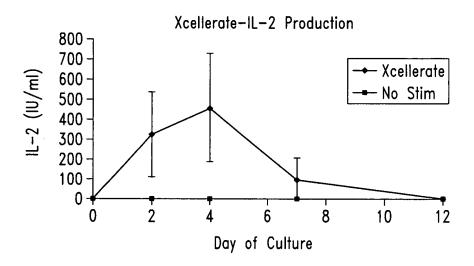


Fig. 24B

Xcellerate-Increased T Cell Size

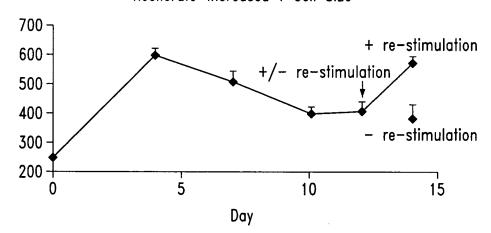
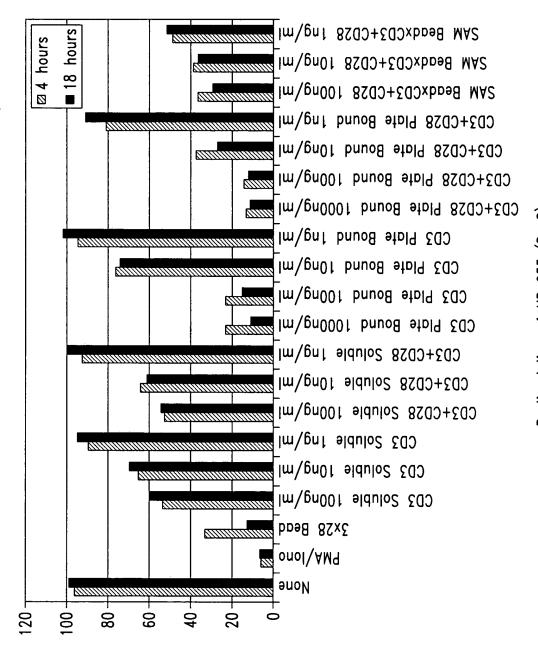
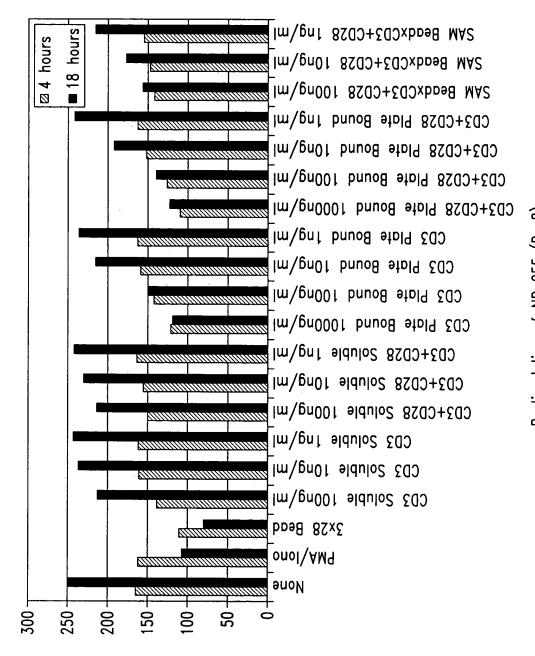


Fig. 25

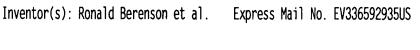
Express Mail No. EV336592935US Inventor(s): Ronald Berenson et al. Docket No. 980034.417C5

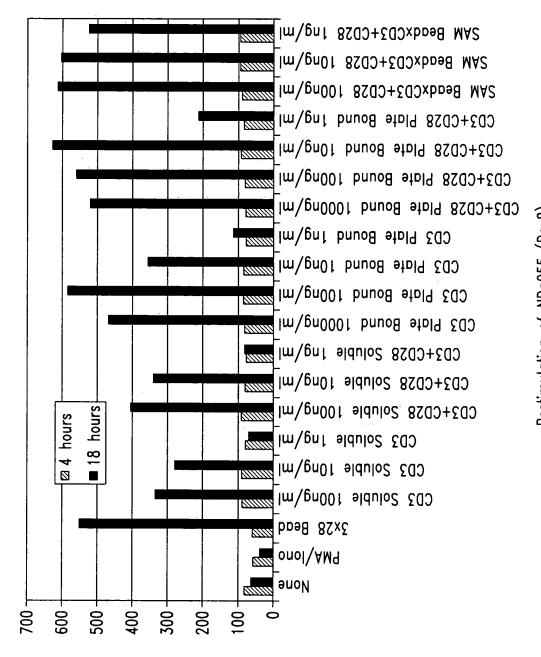


Restimulation of NDa055 (Day8): CD62L (L-Selectin) Expression on CD4+

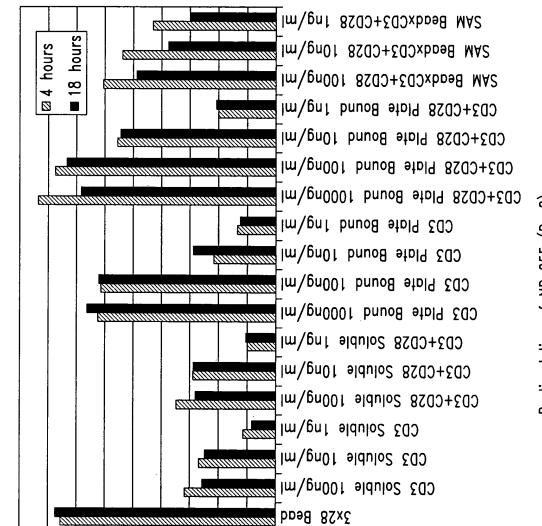


Restimulation of NDa055 (Day8): CD49d (VLA4) Expression on CD4+ T





Restimulation of NDa055 (Day8): CD25 (IL2-R) Expression on CD4+ T



onol\AM9

None

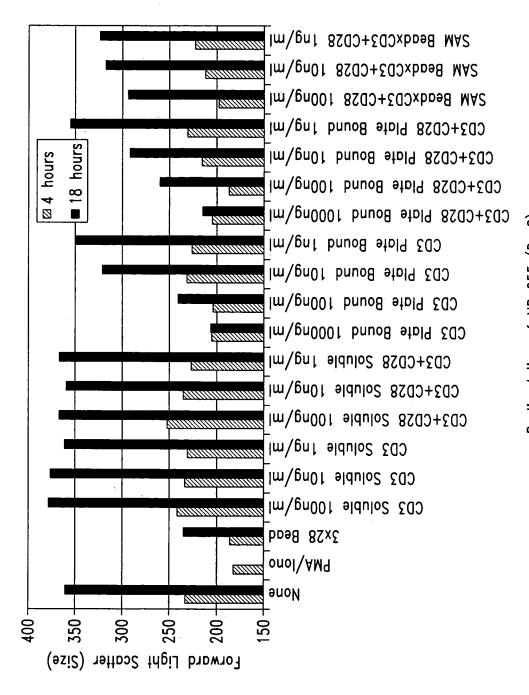
90 80 70 70 50 40 20

MEI CDea

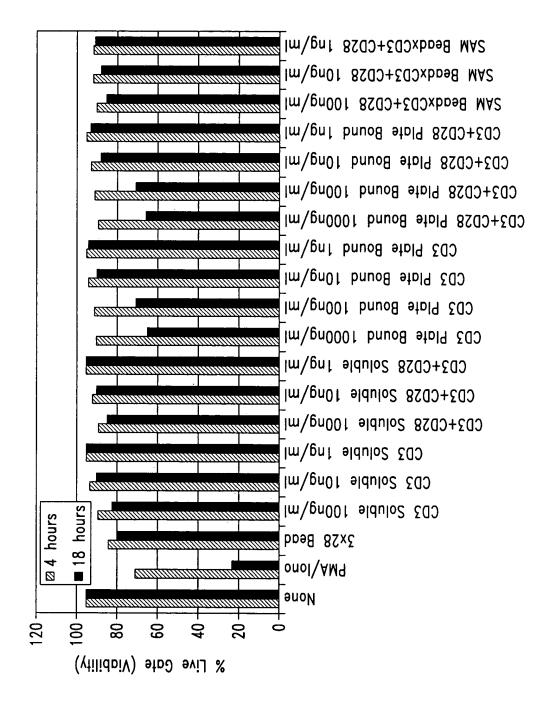
Restimulation of NDa055 (Day8) CD69 Expression on CD4+ T Cel

SAM BeadxCD3+CD28 Ing/ml SAM BeadxCD3+CD28 10ng/ml SAM BeadxCD3+CD28 100ng/ml CD3+CD28 Plate Bound 1ng/ml CD3+CD28 Plate Bound 10ng/ml CD2+CD58 Plate Bound 100ng/ml CD2+CD78 Plate Bound 1000ng/ml CD3 Plate Bound Ing/ml CD3 Plate Bound 10ng/ml CD3 Plate Bound 100ng/ml CD3 Plate Bound 1000ng/ml CD3+CD28 Soluble Ing/ml CD3+CD28 Soluble 10ng/ml CD2+CD58 20Inple 100ng/ml CD3 Soluble Ing/mi CD3 Soluble 10ng/ml CD3 Soluble 100ng/ml ■ 18 hours ☑ 4 hours 3x28 Bead onol\AM9 None 250 8 50 50 MFI CD154 Expression

Restimulation of NDa055 (Day8): CD154 (CD40L) Expression on CD4+ T



Restimulation of NDa055 (Day8) Forward Light Scatter (Size)



Restimulation of NDa055 (Day8): Live Gate (Viability)

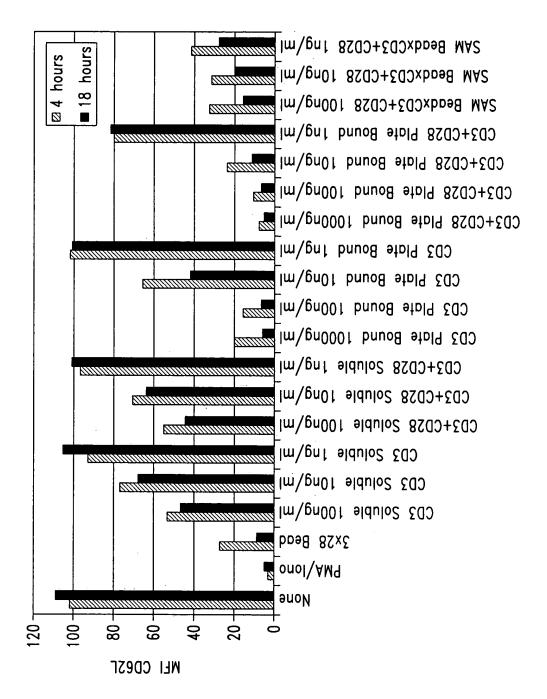


Fig. 26H

Express Mail No. EV336592935US Inventor(s): Ronald Berenson et al. Docket No. 980034.417C5

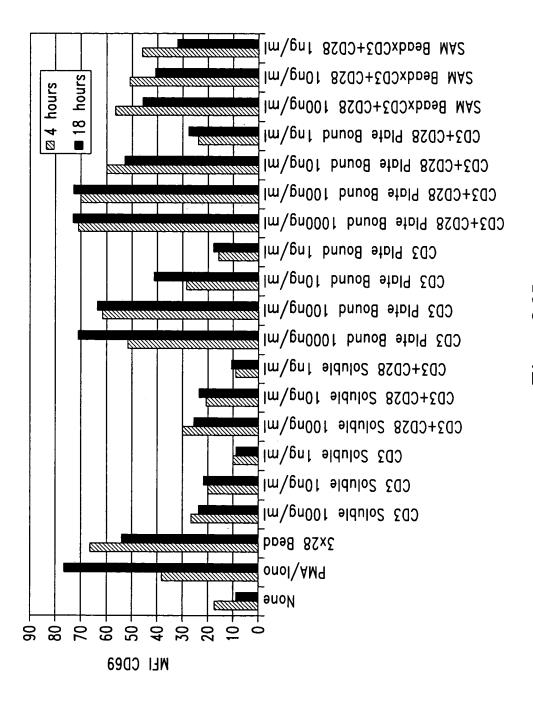


Fig. 26I

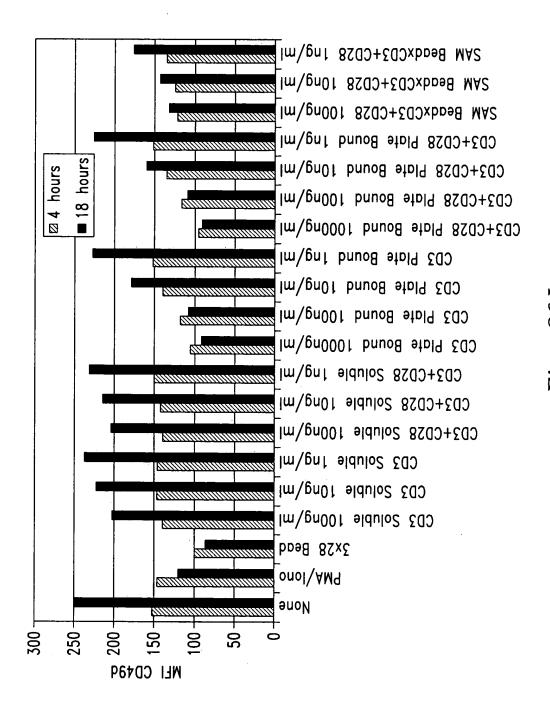


Fig. 26J

Title: ACTIVATION AND EXPANSION OF CELLS

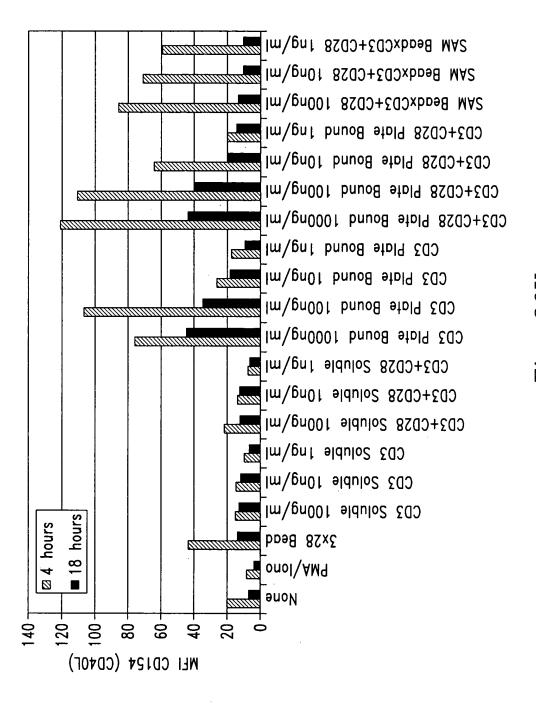


Fig. 26K

Title: ACTIVATION AND EXPANSION OF CELLS

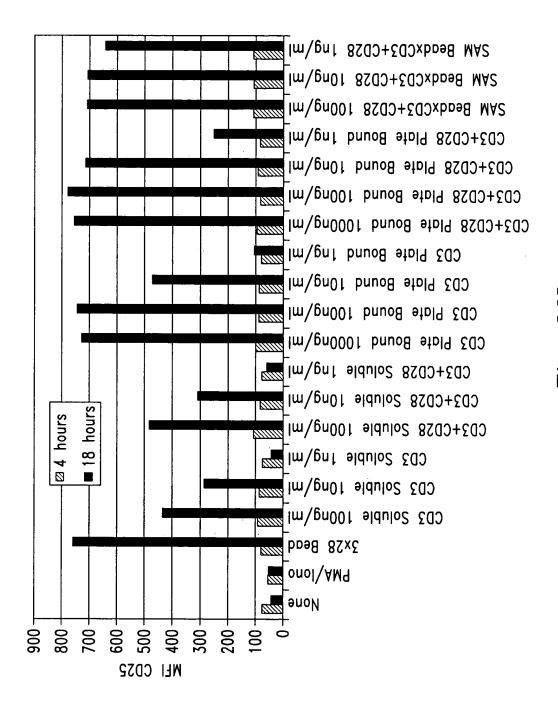
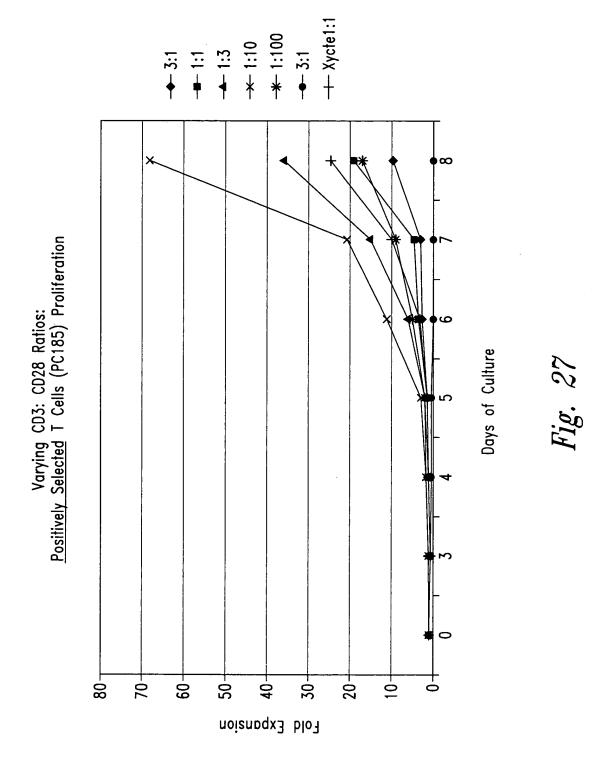


Fig. 26L



Inventor(s): Ronald Berenson et al. Expres

Express Mail No. EV336592935US

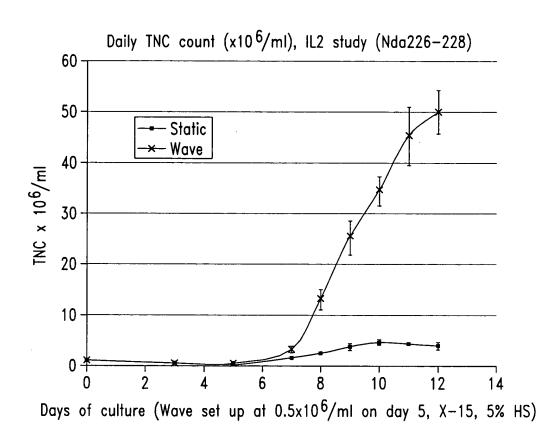
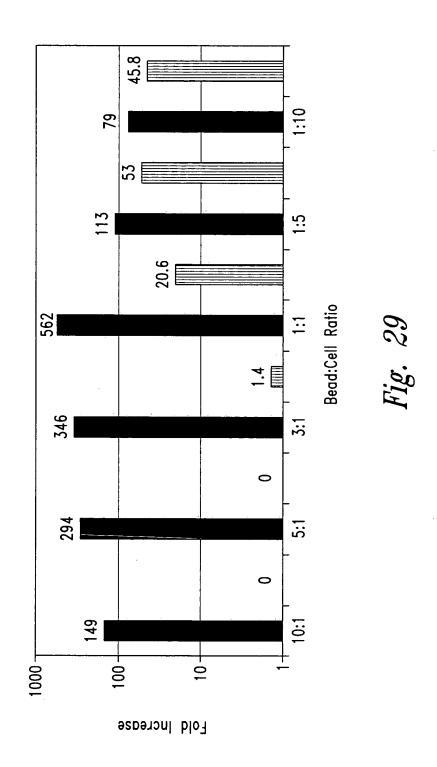


Fig. 28



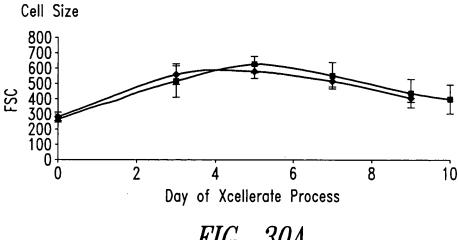


FIG. 30A

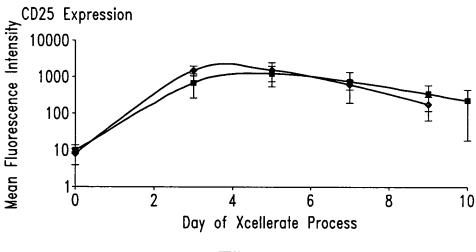
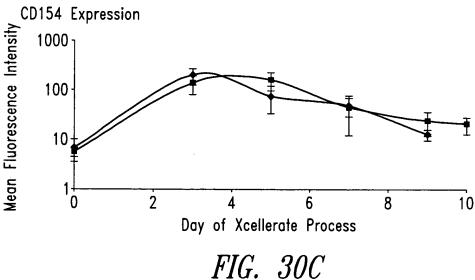
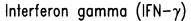


FIG. 30B



Inventor(s): Ronald Berenson et al.

Express Mail No. EV336592935US



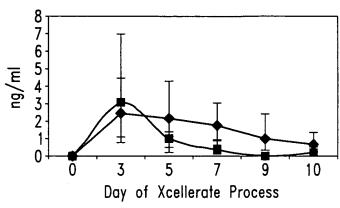


FIG. 31A

Interleukin 2 (IL-2)

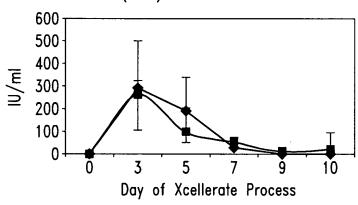


FIG. 31B

Tumor Necrosis Factor alpha (TNF- α)

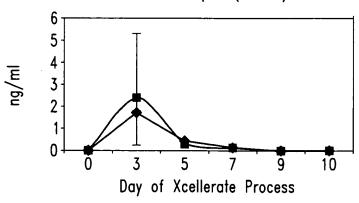
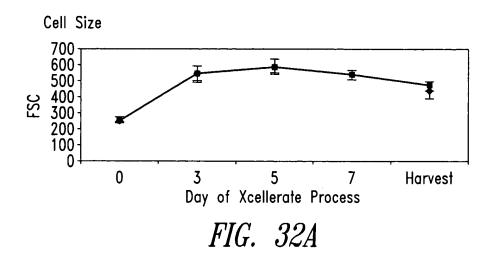
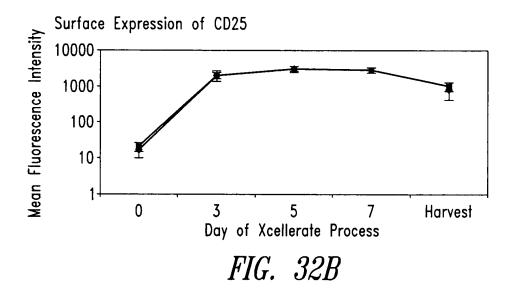


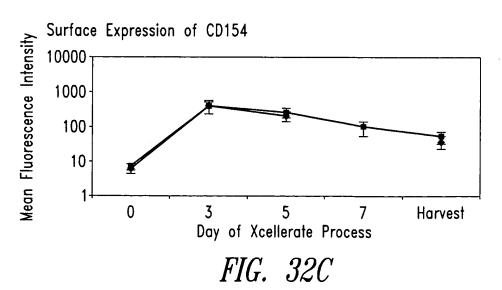
FIG. 31C

Inventor(s): Ronald Berenson et al.

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Express Mail No. EV336592935US

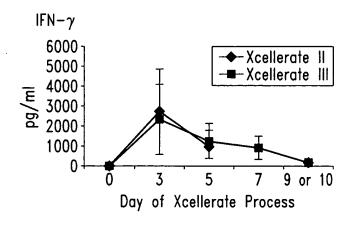


FIG. 33A

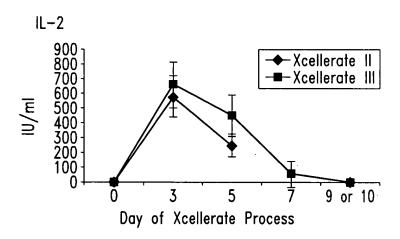


FIG. 33B

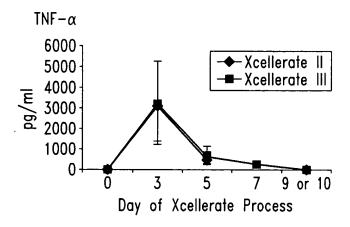
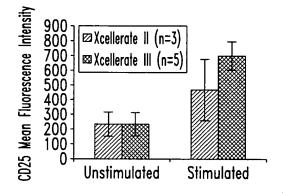


FIG. 33C

Up-regulation of CD25 on CD4⁺ and CD8⁺

Up-regulation of CD25 on CD4⁺ and Xcellerated T Cells



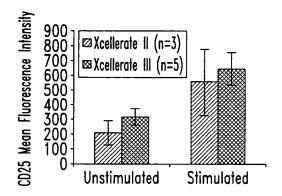
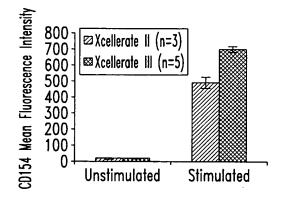


FIG. 34A

Up-regulation of CD154 on CD4⁺ and CD8⁺

Up-regulation of CD154 on CD4⁺ and Xcellerated T Cells



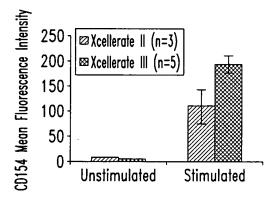


FIG. 34B

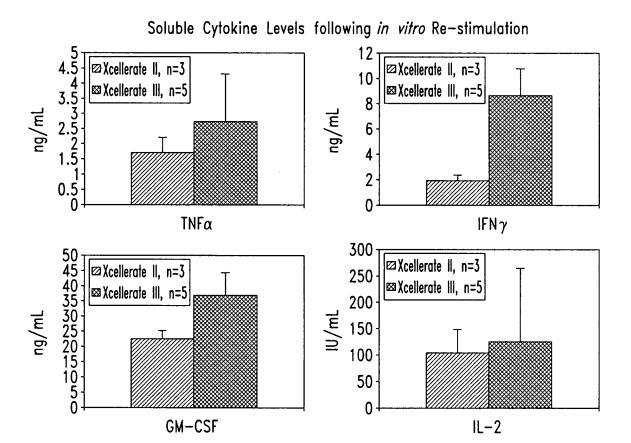


FIG.34C

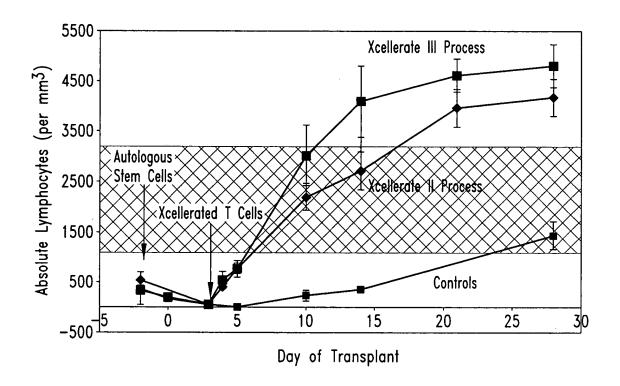


FIG. 35